

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of: Schweitzer et al.

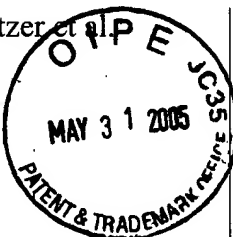
Group Art Unit: 1634

Patent No: 6,893,822 B2  
Issued: May 17, 2005

Examiner: Betty J. Forman

Serial No.: 09/910,469  
Filed: July 19, 2001

Title: ENZYMATIC MODIFICATION OF  
A NUCLEIC ACID-SYNTHETIC  
BINDING UNIT CONJUGATE



**Certificate**  
**JUN 06 2005**  
**of Correction**

**TRANSMITTAL OF REQUEST FOR CERTIFICATE OF CORRECTION**

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450  
Attn: Certificate of Correction Branch

Sir:

Enclosed for filing, please find the following:

1. Request for Certificate of Correction of Patent for Office Mistake (37 CFR 1.322(a)), with Exhibits A and B;
2. Certificate of Correction (Form PTO/SB/44) (in duplicate); and
3. Receipt verification postcard.

The Commissioner is hereby authorized to charge any fees that may be required, or credit any overpayments to Deposit Account 50-2862.

CERTIFICATE OF MAILING (37 C.F.R. §1.8a)

I hereby certify that I have reasonable basis to expect and believe that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Attn: Certificate of Correction Branch.

May 26, 2005  
Date of Deposit  
IR1:1065482.1

Cynthia B. Pacheco  
Cynthia B. Pacheco

JUN 07 2005

Please send the Certificate to:

John Kappos, Esq.  
O'MELVENY & MYERS LLP  
114 Pacifica, Suite 100  
Irvine, CA 92618

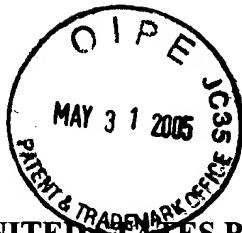
Respectfully submitted,  
O'MELVENY & MYERS LLP

Dated: May 26, 2005

By: Diane K. Wong  
Diane K. Wong  
Reg. No. 54,550

Enclosures

O'Melveny & Myers LLP  
114 Pacifica, Suite 100  
Irvine, CA 92618  
(949) 737-2900



Patent US 503  
Attorney Docket: 612,406-014

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Schweitzer et al.

Group Art Unit: 1634

Patent No: 6,893,822 *B2*  
Issued: May 17, 2005

Examiner: Betty J. Forman

Serial No.: 09/910,469  
Filed: July 19, 2001

Title: ENZYMATIC MODIFICATION OF  
A NUCLEIC ACID-SYNTHETIC  
BINDING UNIT CONJUGATE

REQUEST FOR CERTIFICATE OF CORRECTION OF PATENT FOR  
OFFICE MISTAKE (37 CFR 1.322(a))

Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450  
Attn: Certificate of Correction Branch

Sir:

This request for Certificate of Correction is made pursuant to and 35 U.S.C. §254 and 37 C.F.R. §1.322(a) (Office mistake) to correct mistakes made by the PTO in the printing of three inventors' name. Please correct the subject patent according to the attached Certificate of Correction. Attached (in duplicate) is Form PTO/SB/44, with at least one copy being suitable for printing.

On April 11, 2003, Applicants' filed a Petition to Correct Inventorship Under 37 CFR 1.48(b) to remove RICHARD R. ANDERSON, MICHAEL FIECHTNER, and JILL ORWICK as inventors and a Request for Corrected Filing Receipt to reflect the deletion of these inventors, correct

CERTIFICATE OF MAILING (37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to Commissioner for Patents, P.O. Box 1451, Alexandria, VA 22313-1451, Attn: Certificate of Correction Branch.

*May 26, 2005*  
Date of Deposit  
IR1:1065474.1

*Cynthia B. Pacheco*  
Cynthia B. Pacheco

JUN 07 2005

spelling of JOCHEN MÜLLER-IBELER's and CHRISTOPH BRÜCHER's names, and addition of the residences of the inventors (copy attached as Exhibit A).

On August 21, 2003, the PTO mailed an Office Action, wherein on page 2, Examiner Forman acknowledged Applicant's Petition to Correct Inventorship Under 37 CFR 1:48(b) and Request for Corrected Filing Receipt (copy attached as Exhibit B). Examiner Forman stated that "In view of the papers filed 10 April 2003, the Inventorship in this nonprovisional application has been changed by the deletion of Richard R. Anderon, Michael Fiechtner and Jill Orwick. The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the inventorship as corrected." (Office Action, page 2)

Applicant requests that the subject patent be corrected as follows:

On the title page, item [75], delete "Richard R. Anderson, Encinitas, CA (US);", "Michael D. Fiechtner, Poway, CA (US);" and "Jill M. Orwick, San Diego, CA (US);"

On the title page, item [75], delete "Jochen Müller, Diez (DE);" and insert -- "Jochen Müller-Ibeler, Diez (DE);" --

Please send the Certificate of Correction to John Kappos, O'Melveny & Myers LLP, 114 Pacifica, Suite 100, Irvine, California, 92618-3315, attorney of record for Assignee, Nanogen, Recognomics GmbH. The Commissioner is hereby authorized to charge Deposit Account No. 50-2862 for any fees that may be required with this submission.

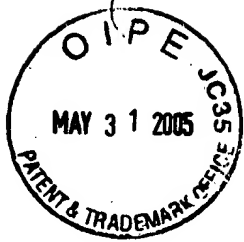
Respectfully submitted,

O'MELVENY & MYERS LLP

Dated: May 26, 2005

By: Diane K. Wong  
Diane K. Wong  
Reg. No. 54,550  
Attorneys for Applicants

O'Melveny & Myers LLP  
114 Pacifica, Suite 100  
Irvine, CA 92618-3315  
(949) 737-2900



Applicant: SCHWEITZER et al. Attorney: DKW/cp  
Serial No.: 09/910,469 Docket No.: 612,406-014  
For: SORTING AND IMMOBILIZATION SYSTEM FOR NUCLEIC ACIDS  
USING SYNTHETIC BINDING SYSTEMS

264/217

Please acknowledge receipt of the following by affixing hereon the Patent and Trademark Office date stamp and returning this card to our office.

**Enclosures:**

1. Transmittal Letter
2. Response to Restriction Requirement
3. Petition to Correct Inventorship Under 37 C.F.R. §1.48(b)
4. Request for Corrected Filing Receipt
5. Payment: \$130.00 (check no. 573970)
6. receipt verification postcard



Date of Deposit: April 11, 2003

IR1:1042249.1 First Class mail

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: )  
Markus Schweitzer et al. ) Group Art Unit: 1634  
Serial No.: 09/910,469 ) Examiner: Betty J. Forman  
Filed: July 19, 2001 )  
For: SORTING AND IMMOBILIZATION SYSTEM )  
FOR NUCLEIC ACIDS USING SYNTHETIC )  
BINDING SYSTEMS )

PETITION TO CORRECT INVENTORSHIP UNDER 37 CFR §1.48(b)

Commissioner for Patents  
Washington, D.C. 20231

Sir:

Pursuant to 37 CFR §1.48(b), Applicants hereby petition that the following inventors be deleted from the above-captioned application: **RICHARD R. ANDERSON, MICHAEL FIECHTNER, and JILL ORWICK.**

The amendment of the claims has necessitated the removal of these inventors, as their invention is no longer being claimed.

Enclosed is check no. 573970 in the amount of \$130.00 to cover the fees set forth in 37 CFR 1.17(i) required for this Petition. Although it is believed that no other fees are due at this time, the

CERTIFICATE OF MAILING  
(37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231

April 11, 2003  
Date of Deposit  
IR1:1041952.1

*Cynthia B. Pacheco*  
Cynthia B. Pacheco

Commissioner is authorized to charge O'Melveny & Myers' Deposit Account No. 50-0639 for any other fee deficiencies related to this filing.

Respectfully submitted,

O'MELVENY & MYERS LLP

Dated: April 10, 2003

By: John Kappos  
John Kappos  
Reg. No. 37,861



34263

PATENT TRADEMARK OFFICE

O'Melveny & Myers LLP  
114 Pacifica, Suite 100  
Irvine, CA 92618-3315  
(949) 737-2900



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the Application of:	)	
	)	Group Art Unit: 1634
Markus Schweitzer et al.	)	
	)	Examiner: Betty J. Forman
Serial No.: 09/910,469	)	
	)	
Filed: July 19, 2001	)	
	)	
For: SORTING AND IMMOBILIZATION SYSTEM	)	
FOR NUCLEIC ACIDS USING SYNTHETIC	)	
BINDING SYSTEMS	)	
	)	
	)	
	)	

**REQUEST FOR CORRECTED FILING RECEIPT**

Attention: Office of Program Control  
Commissioner for Patents  
Washington, D.C. 20231

Sir:

Applicants herein request a corrected filing receipt for the above-identified patent application. The filing receipt for the above application (copy enclosed as Exhibit A) is incorrect in that :

(1) inventors **Richard R. Anderson, Michael Fiechtner, and Jill Orwick** have been removed as inventors of the above-referenced application in a petition filed herewith. This change in inventorship was necessitated by the election of group 81 (claims 275-326), as their invention is no longer being claimed.

(2) The correct spelling of inventor Jochen Muller is "**Jochen Müller-Ibeler**", as

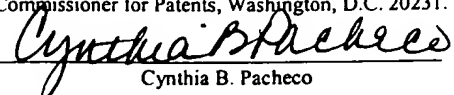
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CERTIFICATE OF MAILING (37 C.F.R. §1.8a)

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being deposited with the United States Postal Service on the date shown below with sufficient postage as First Class Mail in an envelope addressed to the Commissioner for Patents, Washington, D.C. 20231.

April 11, 2003

Date of Deposit

  
Cynthia B. Pacheco

IR1:1041955.1

indicated in the declaration filed October 18, 2001 (attached as Exhibit B).

(3) The correct spelling of inventor Christoph Brucher is "**Christoph Brücher**", as indicated in the declaration filed October 18, 2001 (attached as Exhibit B).

(4) The residences of the following inventors should be added, as indicated in the declaration (see as Exhibit B). The residences are as follows:

**Markus Schweitzer; Frankfurt am Main, Germany**

**Jochen Müller-Ibeler; Diez, Germany**

**Stefan Raddatz; Wiesbaden, Germany**

**Christoph Brücher; Salzbach, Germany**

**Norbert Windhab; Hofheim am Taunus, Germany**

**Eberhard Schneider; Kelkheim, Germany**

**Marc Pignot; Bad Soden/Ts., Germany**

**Stefan Kienle; Frankfurt, Germany**

We respectfully request the issuance of a corrected filing receipt. Applicants believe there is no charge associated with this Request; however, if a fee is required, the Commissioner is directed to charge such fee to O'Melveny & Myers Deposit Account No. **50-0639**.

Respectfully submitted,  
O'MELVENY & MYERS LLP

Dated: April, 2003

By: John Kappos  
John Kappos, Reg. No. 37,861  
Attorneys for Applicants

JCK/DKW/cp



34263

II PATENT TRADEMARK OFFICE

O'Melveny & Myers LLP  
114 Pacifica, Suite 100  
Irvine, CA 92618-3315  
(949) 737-2900





## UNITED STATES PATENT AND TRADEMARK OFFICE

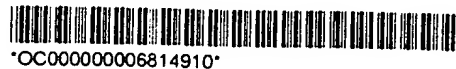
COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/910,469	07/19/2001	1645	0.00	264/217	33	326	7

22249  
LYON & LYON LLP  
633 WEST FIFTH STREET  
SUITE 4700  
LOS ANGELES, CA 90071

CONFIRMATION NO. 1747

## FILING RECEIPT



\*OC000000006814910\*

Date Mailed: 09/28/2001

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Markus Schweitzer, ~~Residence Not Provided;~~ *Frankfurt am Main, Germany*  
~~Richard R. Anderson, Residence Not Provided;~~  
~~Michael Fiechtner, Residence Not Provided;~~  
*Jochen Müller-Ibeler, Jochen Müller, Residence Not Provided; Ditz, Germany*  
*Stefan Raddatz, Residence Not Provided; Wiesbaden, Germany*  
*Christoph Brücher, Christoph Brücher, Residence Not Provided; Salzbad, Germany*  
*Norbert Windhab, Residence Not Provided; Hofheim am Taunus, Germany*  
~~Jill Orwick, Residence Not Provided;~~  
*Eberhard Schneider, Residence Not Provided; Kelkheim, Germany*  
*Marc Pignot, Residence Not Provided; Bad Soden /Ts., Germany*  
*Stefan Kienle, Residence Not Provided; Frankfurt, Germany*

Domestic Priority data as claimed by applicant

Foreign Applications

If Required, Foreign Filing License Granted 09/28/2001

Projected Publication Date: To Be Determined - pending completion of Missing Parts

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*

RECEIVED

OCT 02 2001

U.S. PROSECUTION



**DECLARATION  
Utility Application**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **SORTING AND IMMOBILIZATION SYSTEM FOR NUCLEIC ACIDS USING SYNTHETIC BINDING SYSTEMS**, the specification of which

(Check One) ☐ is attached hereto OR  
☒ was filed on July 19, 2001 as United States Application Serial No. 09/910,469 or PCT International Application No. \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Date of Filing	Priority Claimed	
			Yes	No

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date	Status-Patented, Pending or Abandoned

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

201	FULL NAME OF INVENTOR	FIRST Name Markus	MIDDLE Initial	LAST Name Schweitzer	
	RESIDENCE & CITIZENSHIP	City Frankfurt am Main	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Ferdinand-Dirichs-Weg 30	City Frankfurt am Main	State or Country Germany	Zip Code 60529
INVENTOR'S SIGNATURE _____ DATE _____					

202	FULL NAME OF INVENTOR	FIRST Name Richard	MIDDLE Initial R.	LAST Name Anderson	
	RESIDENCE & CITIZENSHIP	City Encinitas	State or Foreign Country California	Country of Citizenship United States	
	POST OFFICE ADDRESS	1207 Crest Drive	City Encinitas	State or Country California	Zip Code 92024
INVENTOR'S SIGNATURE <u>Richard D. Anderson</u> DATE <u>8/28/01</u>					

203	FULL NAME OF INVENTOR	FIRST Name Michael	MIDDLE Initial D.	LAST Name Fiechtner	
	RESIDENCE & CITIZENSHIP	City Poway	State or Foreign Country California	Country of Citizenship United States	
	POST OFFICE ADDRESS	17209 Cuvee Court	City Poway	State or Country California	Zip Code 92064
INVENTOR'S SIGNATURE <u>Michael D. Fiechtner</u> DATE <u>8/28/01</u>					

204	FULL NAME OF INVENTOR	FIRST Name Jochen	MIDDLE Initial	LAST Name Müller	
	RESIDENCE & CITIZENSHIP	City Diez	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Lorenzstrasse 5	City Diez	State or Country Germany	Zip Code 65582
INVENTOR'S SIGNATURE _____ DATE _____					

205	FULL NAME OF INVENTOR	FIRST Name Stefan	MIDDLE Initial	LAST Name Raddatz	
	RESIDENCE & CITIZENSHIP	City Wiesbaden	State or Foreign Country Germany		Country of Citizenship Germany
	POST OFFICE ADDRESS	Herderstrasse 8	City Wiesbaden	State or Country Germany	Zip Code 65185
INVENTOR'S SIGNATURE _____ DATE _____					

206	FULL NAME OF INVENTOR	FIRST Name Christoph	MIDDLE Initial	LAST Name Brücher	
	RESIDENCE & CITIZENSHIP	City Sulzbach	State or Foreign Country Germany		Country of Citizenship Germany
	POST OFFICE ADDRESS	Jahnstrasse 27	City Sulzbach	State or Country Germany	Zip Code 65843
INVENTOR'S SIGNATURE _____ DATE _____					

207	FULL NAME OF INVENTOR	FIRST Name Norbert	MIDDLE Initial	LAST Name Windhab	
	RESIDENCE & CITIZENSHIP	City Hofheim am Taunus	State or Foreign Country Germany		Country of Citizenship Germany
	POST OFFICE ADDRESS	Hahneckstrasse 36	City Hofheim am Taunus	State or Country Germany	Zip Code 65719
INVENTOR'S SIGNATURE _____ DATE _____					

208	FULL NAME OF INVENTOR	FIRST Name Jill	MIDDLE Initial M.	LAST Name Orwick	
	RESIDENCE & CITIZENSHIP	City San Diego	State or Foreign Country California		Country of Citizenship United States
	POST OFFICE ADDRESS	2128 Thomas Ave. #5	City San Diego	State or Country California	Zip Code 92109
INVENTOR'S SIGNATURE <i>Jill Orwick</i> DATE <i>8/30/01</i>					

209	FULL NAME OF INVENTOR	FIRST Name Eberhard	MIDDLE Initial	LAST Name Schneider	
	RESIDENCE & CITIZENSHIP	City Kelkheim	State or Foreign Country Germany		Country of Citizenship Germany
	POST OFFICE ADDRESS	Atzelbergweg 1	City Kelkheim	State or Country Germany	Zip Code 65779
INVENTOR'S SIGNATURE _____ DATE _____					



210	FULL NAME OF INVENTOR	FIRST Name Marc	MIDDLE Initial	LAST Name Pignot	
	RESIDENCE & CITIZENSHIP	City Bad Soden/Ts.	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Freiherr von Strain Strasse 4	City Bad Soden/Ts.	State or Country Germany	Zip Code 65812
INVENTOR'S SIGNATURE _____ DATE _____					

211	FULL NAME OF INVENTOR	FIRST Name Stefan	MIDDLE Initial	LAST Name Kienle	
	RESIDENCE & CITIZENSHIP	City Frankfurt	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Am Buchwald 5	City Frankfurt	State or Country Germany	Zip Code 60385
INVENTOR'S SIGNATURE _____ DATE _____					

**DECLARATION  
Utility Application**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled **SORTING AND IMMOBILIZATION SYSTEM FOR NUCLEIC ACIDS USING SYNTHETIC BINDING SYSTEMS**, the specification of which

(Check One) ☐ is attached hereto OR  
☒ was filed on July 19, 2001 as United States Application Serial No. 09/910,469 or PCT International Application No. \_\_\_\_\_ and was amended on \_\_\_\_\_ (if applicable).

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s) referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, § 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate, or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number(s)	Country	Date of Filing	Priority Claimed	
			Yes	No

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below.

Application Number(s)	Filing Date

I hereby claim the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT international application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application Number	PCT Parent Number	Parent Filing Date	Status-Patented, Pending or Abandoned

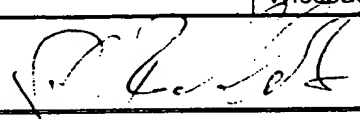
I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Title 18, United States Code, § 1001 and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.


201	FULL NAME OF INVENTOR	FIRST Name Markus	MIDDLE Initial	LAST Name Schweitzer	
	RESIDENCE & CITIZENSHIP	City Frankfurt am Main	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Ferdinand-Dirichs-Weg 30	City Frankfurt am Main	State or Country Germany	Zip Code 60529
INVENTOR'S SIGNATURE <u>Markus Schweitzer</u> DATE <u>10/01/01</u>					


202	FULL NAME OF INVENTOR	FIRST Name Richard	MIDDLE Initial R.	LAST Name Anderson	
	RESIDENCE & CITIZENSHIP	City Encinitas	State or Foreign Country California	Country of Citizenship United States	
	POST OFFICE ADDRESS	1207 Crest Drive	City Encinitas	State or Country California	Zip Code 92024
INVENTOR'S SIGNATURE _____ DATE _____					

203	FULL NAME OF INVENTOR	FIRST Name Michael	MIDDLE Initial D.	LAST Name Fiechtner	
	RESIDENCE & CITIZENSHIP	City Poway	State or Foreign Country California	Country of Citizenship United States	
	POST OFFICE ADDRESS	17209 Cuvee Court	City Poway	State or Country California	Zip Code 92064
INVENTOR'S SIGNATURE _____ DATE _____					


204	FULL NAME OF INVENTOR	FIRST Name Jochen	MIDDLE Initial	LAST Name Müller - Iheler	
	RESIDENCE & CITIZENSHIP	City Diez	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Lorenzstrasse 5	City Diez	State or Country Germany	Zip Code 65582
INVENTOR'S SIGNATURE <u>Jochen Müller-Iheler</u> DATE <u>10/09/01</u>					

205	FULL NAME OF INVENTOR	FIRST Name Stefan	MIDDLE Initial	LAST Name Raddatz	
	RESIDENCE & CITIZENSHIP	City Wiesbaden	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Herderstrasse 8	City Wiesbaden	State or Country Germany	Zip Code 65185
INVENTOR'S SIGNATURE  DATE 10/01/2001					

206	FULL NAME OF INVENTOR	FIRST Name Christoph	MIDDLE Initial	LAST Name Brücher	
	RESIDENCE & CITIZENSHIP	City Sulzbach	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Jahnstrasse 27	City Sulzbach	State or Country Germany	Zip Code 65843
INVENTOR'S SIGNATURE  DATE 09/11/2001					

207	FULL NAME OF INVENTOR	FIRST Name Norbert	MIDDLE Initial	LAST Name Windhab	
	RESIDENCE & CITIZENSHIP	City Hofheim am Taunus	State or Foreign Country Germany	Country of Citizenship Germany	
	POST OFFICE ADDRESS	Hahneckstrasse 36	City Hofheim am Taunus	State or Country Germany	Zip Code 65719
INVENTOR'S SIGNATURE  DATE 10.01.2001					

208	FULL NAME OF INVENTOR	FIRST Name Jill	MIDDLE Initial M.	LAST Name Orwick	
	RESIDENCE & CITIZENSHIP	City San Diego	State or Foreign Country California	Country of Citizenship United States	
	POST OFFICE ADDRESS	2128 Thomas Ave. #5	City San Diego	State or Country California	Zip Code 92109
INVENTOR'S SIGNATURE _____ DATE _____					

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/910,469	07/19/2001	Markus Schweitzer	264/217	1747

34263 7590 08/21/2003

O'MELVENY & MEYERS  
114 PACIFICA, SUITE 100  
IRVINE, CA 92618

EXAMINER

FORMAN, BETTY J

ART UNIT

PAPER NUMBER

1634

DATE MAILED: 08/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

RECEIVED

AUG 25 2003

O'Melveny & Myers LLP  
Irvine, California

O'Melveny & Myers LLP

Files 612,406-014

Action Items

Date Due

Critical Date

Attorney Paths

Docketed By

Verified By

JCK/DKW

**Office Action Summary**

Application No.

09/910,469

Applicant(s)

SCHWEITZER ET AL.

Examiner

BJ Forman

Art Unit

1634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-326 is/are pending in the application.
- 4a) Of the above claim(s) 1-274 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 275-326 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**RECEIVED**

AUG 25 2003

O'Melveny & Myers LLP  
Irvine, California**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4/02 10/E/ 6) ☐ Other:

Art Unit: 1634

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group 81, Claims 275-326 in papers filed 10 April 2003 is acknowledged.

***Inventorship***

2. In view of the papers filed 10 April 2003, the inventorship in this nonprovisional application has been changed by the deletion of Richard R. Anderson, Michael Fiechtner and Jill Orwick.

The application will be forwarded to the Office of Initial Patent Examination (OIPE) for issuance of a corrected filing receipt, and correction of the file jacket and PTO PALM data to reflect the inventorship as corrected.



Art Unit: 1634

**Specification**

3. The disclosure is objected to because of the following informalities:

Page 36, line 29 and page 37, line 1 contain two commas separated by a space “ , , ” which suggests that a word is missing between the commas.

The specification recites “CNA” throughout the text of the specification. However, the specification fails to define or describe the meaning of the term. Because the meaning of the term is not understood in the context of the specification and because the specification does not define or describe the term, the specification is objected to for using an undefined term.

Appropriate correction is required.

**Information Disclosure Statement**

4. The references listed on the 1449 received 18 October 2001 have been reviewed and considered as noted on the 1449. Only the English-language abstracts of the non-English language references have been reviewed as noted on the 1449.

The non-U.S. Patent references listed on the 1449 received 16 April 2002 have not been reviewed because copies of the references have not been supplied.

Copies of the initialed 1449s are enclosed with this action.

**Claim Rejections - 35 USC § 112**

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 275-326 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claims 275-326 are indefinite in Claim 275 because the claim is drawn to a method for modifying a nucleic acid selected from 1) a target nucleic acid and 2) the nucleic acid of a conjugate comprising a NA and SBU. However, the method steps include “contacting the conjugate” and “incubating the mixture”. Therefore, it is unclear whether the method steps modify a target nucleic acid as claimed.

b. Claims 275-326 are indefinite in Claim 275, line 2, for “the nucleic acid”; step a) for “the action of the enzyme”; step b), line 1, for “the mixture”; and step b), lines 1-2 for “the functioning” because all of the recitations lack proper antecedent basis. It is suggested that claim 275 be amended to provide proper antecedent basis.

c. Claim 293 is indefinite for the recitation “contacting the conjugate with an RNAase H activity” because it is unclear whether the RNAase H enzyme is in the mixture or merely the activity of the enzyme.

d. Claims 301-308 are each indefinite for the recitation “the point of activity” because the recitation lacks proper antecedent basis in Claim 275.

e. Claims 301-308 are each indefinite for the recitation “the point of conjugation” because the recitation lacks proper antecedent basis in Claim 275.

f. Claims 325 and 326 contains the trademark/trade name BIODIPY, KODAK, AND Black Hole Quencher. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd.

Art Unit: 1634

App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe labels and, accordingly, the identification/description is indefinite.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 275-287, 289-290, 292, 297-314, 319-321 and 323-325 are rejected under 35 U.S.C. 102(b) as being anticipated by Kool (U.S. Patent No. 6,077,668 issued 20 June 2000).

The claims are broadly drawn to methods of modifying a nucleic acid comprising the steps of contacting a conjugate comprising a nucleic acid and synthetic binding unit (e.g. nucleic acid analog) with an enzyme with reagents and under conditions for nucleic acid modification. The claimed conjugate encompasses a circular template comprising analogs, a primer comprising analogs, and a multimer comprising analogs all of which are taught by

Art Unit: 1634

Kool as discussed below. Because all of these conjugates are encompassed by the claims, various methods of modifying the conjugates are also encompassed by the claims.

Regarding Claim 275, Kool discloses a method for enzymatically modifying a nucleic acid, the method comprising: contacting conjugate comprising a nucleic acid and synthetic binding unit (i.e. circular template containing nucleic acid analog, Column 9, lines 26-33 and Column 13, line 56-Column 14, line 11) with an enzyme with utilizes naturally occurring nucleic acids as a substrate and other reagents for enzyme action and incubating the mixture under conditions suitable for enzyme functioning for a period of time sufficient to effect modification of the nucleic acid (Column 5, lines 34-53).

Regarding Claim 276, Kool discloses method wherein the reagents include a nucleic acid with hybridizes to the nucleic acid of the conjugate i.e. primer (Column 5, lines 34-53).

Regarding Claim 277, Kool discloses the method wherein the other reagents includes modified (i.e. labeled) nucleoside triphosphates (Column 5, lines 34-53).

Regarding Claim 278, Kool discloses the method wherein the enzyme is selected from a polymerase (Column 5, lines 14-26), a ligase (Column 10, lines 9-64) and a restriction endonuclease (Example 3, Column 26, Scheme II).

Regarding Claim 279, Kool discloses the method wherein the enzyme is ligase and the conjugate is modified by ligation of a terminus of the nucleic acid to at least one additional nucleic acid e.g. linker (Column 10, line 27-Column 11, line 2).

Regarding Claim 280, Kool disclose the method wherein the ligation is template dependent and the nucleic acid of the conjugate and the additional nucleic acids are hybridized to adjacent sequences of a template i.e. splint (Example 26, Column 45).

Regarding Claim 281, Kool discloses the method wherein the ligation is template independent and the nucleic acid of the conjugate and the additional nucleic acids are single stranded (Column 10, line 27-Column 11, line 2).

Art Unit: 1634

Regarding Claim 282, Kool discloses the method wherein the ligase is T4 RNA ligase (Column 10, lines 62-65).

Regarding Claim 283, Kool discloses the method wherein the ligation is blunt-ended and the nucleic acid of the conjugate and the additional nucleic acids (i.e. adapter) are double stranded i.e. adapter is hybridized to the precircle thereby juxtaposing the 5' and 3' ends of the precircle which are then ligated (Column 10, lines 59-64 and Column 11, lines 3-24).

Regarding Claim 284, Kool discloses the method wherein the enzyme is a polymerase, wherein the nucleic acid of the conjugate has an unblocked 3' terminus, wherein the other reagents comprise a template to which the unblocked terminus hybridizes and wherein the nucleic acid is modified by the addition of at least one nucleoside complementary to the template at the 3' terminus i.e. in this embodiment, Kool teaches a biotinylated (analog) oligonucleotide as the conjugate having an unblocked 3' terminus which, when contacted with the circular template and a polymerase, is modified by addition of a nucleoside complementary to the template (Example 31, Column 51, line 61-Column 52, line 17).

Regarding Claim 285, Kool discloses the method of Claim 284 wherein the resulting modified conjugates are sequenced using dideoxynucleotides (Example 17, Column 39, lines 15-44).

Regarding Claim 286, Kool discloses the method of Claim 284 wherein a labeled nucleotide is added to the conjugate (Example 31, Column 52, lines 3-7).

Regarding Claim 287, Kool discloses the method of Claim 284 wherein the template is derived from a biological sample i.e. the circular template is derived from any organism (Column 10, lines 20-24).

Regarding Claim 289, Kool discloses the method of Claim 284 wherein the polymerase is selected from DNA polymerase, RNA polymerase and reverse transcriptase (Column 5, lines 14-33).

Art Unit: 1634

Regarding Claim 290, Kool discloses the method of Claim 284 wherein at least a portion of the template is amplified i.e. a multimer is produce comprising multiple copies of the circular template (Example 31, Column 51, line 61-Column 52, line 17).

Regarding Claim 292, Kool discloses the method of Claim 284 further comprising contacting the conjugate with a restriction endonuclease and wherein the conjugate comprises a recognition sequence 5' of the 3' terminus which hybridizes to the template and wherein at least a portion of the template is amplified by strand displacement (Column 8, lines 36-57 and Column 9, lines 56-Column 10, line 9 and Fig. 1).

Regarding Claim 297, Kool discloses the method of Claim 275 wherein the enzyme is a restriction endonuclease and the other reagents comprise a target nucleic acid (i.e. short DNA strand) which hybridizes to the conjugate and wherein the conjugate and the target are cleaved by the restriction endonuclease (Column 21, lines 1-10).

Regarding Claim 298, Kool discloses the method of Claim 275 wherein the enzyme is a restriction enzyme wherein the other reagents comprise a target nucleic acid to which the conjugate hybridizes and wherein the conjugate (i.e. multimer) is cleaved by the restriction enzyme but not the target (i.e. circular template) (Example 31, Column 51, line 61-Column 52, line 17 and Fig. 1).

Regarding Claim 299, Kool discloses the method of Claim 275 wherein the enzyme is a restriction enzyme wherein the other reagents comprise a target nucleic acid to which the conjugate hybridizes and wherein the target (i.e. circular template) is cleaved by the restriction enzyme but conjugate (i.e. multimer) not the (Example 31, Column 51, line 61-Column 52, line 17 and Fig. 1). In this embodiment, the conjugate is the circular template comprising analogs and the target is the multimer product which is cleaved by the restriction enzyme. As stated above, the claims are broadly drawn to encompass numerous and various embodiments as disclosed by Kool.

Art Unit: 1634

Regarding Claim 300, Kool disclose the method of Claim 275 wherein the enzyme is RNAase H wherein other reagents comprise an RNA target to which a portion of the conjugate hybridizes and wherein the conjugate is degraded (i.e. cleaved) by the RNAase H (Column 22, lines 39-45).

Regarding Claims 301-308, Kool discloses the method of Claim 275 wherein the point of activity of the enzyme is at the point of conjugation of the nucleic acid and the synthetic binding unit i.e. the analog-containing primer is contacted by the polymerase and therefore the point of activity for the primer (Column 8, lines 37-57; Column 11, line 51-Column 12, line 40; and Column 18, lines 48-62).

Regarding Claims 309-314, Kool discloses the method wherein the SBU is an oligomer comprising of a backbone connecting monomeric units (i.e. nucleotides) and a recognition moiety (i.e. base) which provides specific interaction with a synthetic addressing unit wherein the moiety is a six membered ring comprising carbon i.e. a pyranosyl ring and wherein the molecular interaction is via hydrogen bonding i.e. hybridization and wherein the moiety comprises a nitrogen heterocycle i.e. base (e.g. pRNA, Column 13, line 57-Column 14, line 11).

Regarding Claim 319, Kool discloses the method wherein the nucleic acid is selected from the group consisting of DNA, RNA and chemically modified nucleic acids (Column 8, lines 61-66).

Regarding Claim 320, Kool discloses the method wherein the nucleic acid is selected from the group consisting of phosphorothioate nucleic acids, phosphorodithioate nucleic acids, methylphosphonate nucleic acids, 2'-o-methyl RNA, and 2'-fluoro RNA (Column 13, line 57-Column 14, line 11).

Regarding Claim 321, Kool discloses the method wherein the nucleic acid is PNA (Column 13, lines 57-65).

Art Unit: 1634

Regarding Claim 323, Kool discloses the method wherein the conjugate further comprises at least one labeling moiety e.g. the primer as conjugate is labeled (Column 13, lines 26-36).

Regarding Claim 324, Kool discloses the method wherein label is selected from fluorescent moiety, visible dye moiety, raditoactive moiety, chemiluminescent moiety, biotin moiety (Column 17, lines 36-59).

Regarding Claim 325, Kool discloses the method wherein the labeling moiety is a fluorescent dye selected from fluorescein dyes, rhodamine dyes, Texas red dyes, Oregon green (Column 17, lines 50-59).

***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 288 and 291 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kool (U.S. Patent No. 6,077,668 issued 20 June 2000) in view of Zhang et al (U.S. Patent No. 5,876,924, issued 2 March 1999).

Regarding Claim 288, Kool discloses a method for enzymatically modifying a nucleic acid, the method comprising: contacting a conjugate comprising a nucleic acid and synthetic



Art Unit: 1634

binding unit (i.e. circular template containing nucleic acid analog, Column 9, lines 26-33 and Column 13, line 56-Column 14, line 11) with an enzyme with utilizes naturally occurring nucleic acids as a substrate and other reagents for enzyme action and incubating the mixture under conditions suitable for enzyme functioning for a period of time sufficient to effect modification of the nucleic acid (Column 5, lines 34-53) wherein the template is derived from a biological sample i.e. the circular template is derived from any organism (Column 10, lines 20-24) but they do not specifically teach the claimed organisms and samples. However, Zhang et al teach a similar method for modifying a nucleic acid comprising: contacting a conjugate comprising a nucleic acid and synthetic binding unit (i.e. bead modified probe, Column 7, lines 8-30) with an enzyme with utilizes naturally occurring nucleic acids as a substrate and other reagents for enzyme action and incubating the mixture under conditions suitable for enzyme functioning for a period of time sufficient to effect modification of the nucleic acid (Column 43, line 56-Column 44, line 40) wherein the sample is selected from the group consisting of human materials and viral cultures whereby clinically important samples are sensitively detected rapidly (Column 3, lines 3-9). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the human and viral sample detection of Zhang et al to the organism detection of Kool based on the clinical importance of human and viral detection as taught by Zhang et al (Column 3, lines 3-9).

Regarding Claim 291, Kool teaches the method wherein the polymerase is a thermostable polymerase (Column 13, lines 22-24) but they do not specifically teach thermocycling conditions. However, Zhang et al teach the similar method wherein the template is amplified utilizing a thermostable polymerase and thermocycling conditions whereby sequence-specific amplification is performed (Column 14, lines 1-67). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the thermocycling conditions of Zhang et al to the amplification of Kool to thereby provide amplification temperatures specific for the sequence to be amplified for the expected

Art Unit: 1634

benefit of optimizing conditions for sequence-specific amplification as taught by Zhang et al (Column 14, lines 1-67).

11. Claim 293 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kool (U.S. Patent No. 6,077,668 issued 20 June 2000) in view of Berninger et al (U.S. Patent No. 5,194,370 issued 16 March 1993).

Regarding Claim 293, Kool discloses a method for enzymatically modifying a nucleic acid, the method comprising: contacting a conjugate comprising a nucleic acid and synthetic binding unit (i.e. circular template containing nucleic acid analog, Column 9, lines 26-33 and Column 13, line 56-Column 14, line 11) with an enzyme with utilizes naturally occurring nucleic acids as a substrate and other reagents for enzyme action and incubating the mixture under conditions suitable for enzyme functioning for a period of time sufficient to effect modification of the nucleic acid (Column 5, lines 34-53) wherein the polymerase is RNA polymerase and containing RNAase H activity (Column 22, lines 39-45) but does not teach the polymerase is in a mixture comprising reverse transcriptase. However, mixtures of RNA polymerase, reverse transcriptase and RNAase H were well known in the art at the time the claimed invention was made as taught by Berninger et al (Column 13, lines 55-67). Furthermore they teach the mixture produces nucleic acids functionally identical to the starting nucleic acids (Abstract). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the polymerase mixture of Berninger et al to the RNA synthesis of Kool for the expected benefit of obtaining RNA molecules functionally identical to the starting RNA molecules as taught by Berninger et al (Abstract).

Art Unit: 1634

12. Claim 294-296 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kool (U.S. Patent No. 6,077,668 issued 20 June 2000) in view of Nelson et al (Methods in Enzymology, 1979, 68: 41-50).

Regarding Claims 294-296, Kool discloses a method for enzymatically modifying a nucleic acid, the method comprising: contacting a conjugate comprising a nucleic acid and synthetic binding unit (i.e. circular template containing nucleic acid analog, Column 9, lines 26-33 and Column 13, line 56-Column 14, line 11) with an enzyme with utilizes naturally occurring nucleic acids as a substrate and other reagents for enzyme action and incubating the mixture under conditions suitable for enzyme functioning for a period of time sufficient to effect modification of the nucleic acid (Column 5, lines 34-53) wherein the polymerase is RNA polymerase and containing RNAase H activity and a labeled nucleic acid is added to the conjugate (Column 22, lines 39-45) but they do not teach the enzyme is a terminal transferase wherein a homopolymeric tail is added to the conjugate. However, terminal transferase addition of homopolymeric tails was well known in the art at the time the claimed invention was made as taught by Nelson et al who teach that addition of homopolymeric tails using terminal transferase eliminates the need for restriction sites and results in successful infection (page 42, second full paragraph). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the terminal transferase addition of homopolymeric tails as taught by Nelson et al to the nucleic acid addition of Kool. One of ordinary skill in the art would have been motivated to do so based on the advantages taught by Nelson et al i.e. eliminates the need for restriction sites and results in successful infection (page 42, second full paragraph).

13. Claims 322 and 326 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kool (U.S. Patent No. 6,077,668 issued 20 June 2000) in view of Lannigan et al (U.S. Patent No. 6,399,302, filed 20 August 1999).

Regarding Claims 322 and 326, Kool discloses a method for enzymatically modifying a nucleic acid, the method comprising: contacting a conjugate comprising a nucleic acid and synthetic binding unit (i.e. circular template containing nucleic acid analog, Column 9, lines 26-33 and Column 13, line 56-Column 14, line 11) with an enzyme with utilizes naturally occurring nucleic acids as a substrate and other reagents for enzyme action and incubating the mixture under conditions suitable for enzyme functioning for a period of time sufficient to effect modification of the nucleic acid (Column 5, lines 34-53) wherein the polymerase is RNA polymerase and containing RNAase H activity and a labeled nucleic acid is added to the conjugate (Column 22, lines 39-45) but they do not teach the nucleic acid is an aptamer wherein the conjugate is labeled with a quencher moiety. However, quencher labeled aptamers were well known in the art at the time the claimed invention was made as taught by Lannigan et al. who further teach that aptamers have the ability to form an array of shapes, sizes and configurations and therefore are capable of forming specific binding pairs with almost any compound (Column 1, lines 49-63). They further teach that the quencher labeled aptamers permits real-time detection of binding events (Column 10, lines 57-61). It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to apply the quencher-labeled nucleic acid aptamers of Lannigan et al to the nucleic acids of Kool to thereby provide nucleic acids which would form binding partner with virtually

Art Unit: 1634

any compound wherein the binding event would be detected over time as taught by Lannigan et al (Column 1, lines 49-63 and Column 10, lines 57-61) for the expected benefit of detecting a binding partner for any compound for which a binding partner is desired (Column 1, lines 49-63).

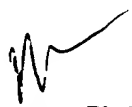
#### Conclusion

14. Claims 315-318 are free of the prior art of record and may be placed in condition for allowance following resolution of the above rejections.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BJ Forman whose telephone number is (703) 306-5878. The examiner can normally be reached on 6:30 TO 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (703) 308-1119. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4242 for regular communications and (703) 308-8724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

  
BJ Forman, Ph.D.  
Primary Examiner  
Art Unit: 1634  
August 18, 2003

BJ Forman  
(571) 272-0741  
phone #

April 5, 2004

<b>FORM PTO-1449</b> <b>LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT</b> (Use several sheets if necessary)	<b>ATTY. DCK NO.</b> 264/217	<b>SERIAL NO.</b> 09/910,469
	<b>APPLICANT:</b> Markus Schweitzer et al.	
	<b>FILING DATE:</b> July 19, 2001	<b>GROUP:</b> Not Assigned

U.S. PATENT DOCUMENTS							
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE
<i>A</i>	AA	5,763,175	06/09/1998	Brenner	435	6	11/17/1995
<i>L</i>	AB	5,605,662	02/25/1997	Heller et al.	422	68.1	11/01/1993
<i>L</i>	AC	6,051,380	04/18/2000	Sosnowski et al.	435	6	12/05/1997

FOREIGN PATENT DOCUMENTS								
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES NO	
<i>W</i>	AD /	86/07387	12/18/1986	WIPO				
	AE /	0 305 145 A2	03/01/1989	European Patent Office				
	AF /	0 360 940 A2	04/04/1990	European Patent Office				
	AG /	Hei 3-151900	06/28/1991	Japan			X	
	AH /	93/13223	07/08/1993	WIPO				
	AI /	93/13225	07/08/1993	WIPO				
	AJ /	93/25563	12/23/1993	WIPO				
	AK /	0 360 940 B1	01/31/1996	European Patent Office				
	AL /	97/32999	09/12/1997	WIPO				
	AM /	97/43232	11/20/1997	WIPO Abstract Only				
	AN /	98/25943	06/18/1998	WIPO Abstract Only				
	AO /	99/15509	04/01/1999	WIPO Abstract Only				
	AP /	99/15539	04/01/1999	WIPO Abstract Only				
	AQ /	99/15540	04/01/1999	WIPO Abstract Only				
	AR /	99/15541	04/01/1999	WIPO Abstract Only				
	AS /	99/15542	04/01/1999	WIPO Abstract Only				
	AT /	99/15893	04/01/1999	WIPO Abstract Only				
<i>W</i>	AU /	00/11011	03/02/2000	WIPO Abstract Only				

<b>EXAMINER:</b> <i>A</i>	<b>DATE CONSIDERED:</b> <i>Aug 03</i>
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264/217SERIAL NO.  
09/910,469USE OF PATENTS AND OTHER ITEMS FOR APPLICANT'S  
INFORMATION DISCLOSURE STATEMENTAPPLICANT:  
Markus Schweitzer et al.FILING DATE:  
July 19, 2001GROUP:  
Not Assigned

(Use several sheets if necessary)

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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANSLATION YES NO
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	BK	Zhu, B.C.F. et al., "Ligation of oligonucleotides to nucleic acids or proteins via disulfide bonds", <i>Nucleic Acids Research</i> , Vol. 16, No. 9, pp. 3671-3691, 1988.
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<i>n</i>	BS	Westin, L., et al., "Antimicrobial Resistance and Bacterial Identification Utilizing a Microelectronic Chip Array", <i>J. Clinical Microbiol.</i> , Vol. 39, No. 3, pp. 1097-1104, 2001.

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ATTY. DOC. NO. 264/217

SERIAL NO. 09/910,469

APPLICANT: Mark SCHWEITZER et al.

FILING DATE: July 19, 2001

GROUP: 1645

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Examiner: Not Yet Assigned

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Page 1 of 3



FORM PTO-1449	ATTY. DOC. NO. 264/217	SERIAL NO. 09/910,469
LIST OF PATENTS AND OTHER ITEMS FOR APPLICANT'S INFORMATION DISCLOSURE STATEMENT		
(Use several sheets if necessary)	APPLICANT: Mark SCHWEITZER et al.	FILING DATE: July 19, 2001
		GROUP: 1645

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Examiner: Not Yet Assigned	DATE CONSIDERED: <u>Aug 03</u>
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	<b>APPLICANT:</b> Mark SCHWEITZER et al.	
	<b>FILING DATE:</b> July 19, 2001	<b>GROUP:</b> 1645
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DX	Zhang, Y. et al, <i>J. Am. Chem. Soc.</i> , 116, 1994, pp 1661-1669

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Information Disclosure Statement - Section 9 PTO-1449

Page 3 of 3

<b>Notice of References Cited</b>	Application/Control No. 09/910,469	Applicant(s)/Patent Under Reexamination SCHWEITZER ET AL.	
	Examiner BJ Forman	Art Unit 1634	Page 1 of 1

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	F	US-			
	G	US-			
	H	US-			
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	N					
	O					
	P					
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	U	Nelson et al "Addition of Homopolymers to the 3' ends of duplex DNA with terminal transferase" Methods in Enzymology, 197 68: 41-50.
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\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

**UNITED STATES PATENT AND TRADEMARK OFFICE  
CERTIFICATE OF CORRECTION**

PATENT NO. : 6,893,822

DATED : May 17, 2005

INVENTOR(S) : Schweitzer et al.

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the title page, item [75], delete "Richard R. Anderson, Encinitas, CA (US);", "Michael D. Fiechtner, Poway, CA (US);" and "Jill M. Orwick, San Diego, CA (US);"

On the title page, item [75], delete "Jochen Müller, Diez (DE);" and insert  
-- "Jochen Müller-Ibeler, Diez (DE);" --

MAILING ADDRESS OF SENDER:

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